

Remarks

Applicant has amended Claims 1, 15 and 34; and has cancelled Claims 42-48. Applicant respectfully submits that no new matter was added by the amendment, as all of the amended matter was either previously illustrated or described in the drawings, written specification and/or claims of the present application. (See e.g., Pars. 4 and 32; FIGS. 1-2). Entry of the amendment and favorable consideration thereof is earnestly requested.

Claims 1 and 15

As amended, Claims 1 and 15 require among other limitations “a timing generator, generating a timing signal particular to said camera head, the timing signal actuating said imager and sent to said camera control unit” and “the camera control unit programmed based at least in part upon said timing signal particular to said camera head.” Applicant respectfully submits that neither of these limitations are disclosed or taught in the cited prior art.

For example, U.S. Patent No. 6,449,007 (“Yokoyama”) teaches that it is an object of “the present invention to make it easy to synchronize a camera head unit and a signal processing unit by synchronizing with a synchronizing signal generated by an external device.” (col. 3, lines 6-10). Yokoyama teaches that the “HD and VD signals which are generated by the external oscillator 6 and inputted to the signal processing unit 10 enter a synchronizing signal generator (SSG) 12, and horizontal and vertical synchronization

of the signal processing unit 10 with the external oscillator 6 is established.” (col. 5, lines 20-24; See, FIG. 1). Therefore, Yokoyama teaches that external oscillator 6 sets the synchronization of the system. This is further confirmed where Yokoyama teaches that reference numeral “5 denotes the phase control unit which shifts to adjust the phase of the clock signal 2CLK from the external oscillator 6, and transmits the phase-shifted clock signal 2CLK to the camera head 9 as a reference clock.” (col. 5, lines 30-34; See, FIG. 1) (emphasis added).

Accordingly, while Yokoyama identifies a timing generator 64 located in camera head 9 (Figure 1), Yokoyama fails to teach, disclose or suggest the timing generator generates a timing signal particular to said camera head as required by Claims 1 and 15.

This is not an insignificant difference. In discussing the disadvantages of current systems such as Yokoyama, the specification stated that “only camera heads requiring timing signals matched to the CCUs timing generator may be utilized with this arrangement. Therefore, new or differing camera heads utilizing different timing signals cannot be utilized.” (Par. 4). This significant limitation is caused, at least in part, because the timing generation is derived from a source other than the camera. Therefore, only cameras that are compatible with that external timing source may effectively be used.

Applicant further respectfully submits that it cannot be obvious to discard this primary teaching of Yokoyama, which states “[a]ccording to the present invention, the foregoing second object is attained by further providing input means for inputting a

synchronizing signal from an external device in addition to the above signal processing apparatus.” (col. 3, lines 52-55) (emphasis added).

In addition, both Claims 1 and 15 require that the timing signal particular to the attached camera head be sent to the camera control unit and that the camera control unit be programmed based at least in part upon said timing signal particular to said camera head. Neither of these limitations are taught in Yokoyama either. In fact, Yokoyama teaches the exact opposite, namely that an external oscillator generates the timing signal, which is sent to the camera control unit, which is then in turn transmitted to the camera head. (col. 5, lines 20-24 & 30-34; See, FIG. 1).

Accordingly, Applicant respectfully submits that, because Yokoyama fails to teach, disclose or suggest “a timing generator, generating a timing signal particular to said camera head, the timing signal actuating said imager and sent to said camera control unit” and “the camera control unit programmed based at least in part upon said timing signal particular to said camera head” as required by Claims 1 and 15, Yokoyama cannot anticipate or render these claims obvious.

Claims 25 and 34

Both Claims 25 and 34 require, among other limitations, a cable, connected to said camera control unit, for transmitting the digital image signal to said camera control unit. In addition, Claim 25 also requires a camera head having a converter, for converting the analog image signal into the digital image signal, while Claim 34 further requires a serializer, for serializing the digital image signal for transmission over said cable. Applicant respectfully submits that none of the cited prior art teaches this limitation.

For example, the Examiner stated “[w]hat Yokoyama does not teach is a converter for converting the analog image signal to a digital signal (an analog to digital converter or A/D converter) in the camera head, however it does teach an A/D in the signal processing unit 10.” (Official Action 10/18/05, p. 5). Accordingly, Yokoyama does not teach transmitting a digital image signal from the camera to the camera control unit as required by Claims 25 and 34. The Examiner does go on to state however, that U.S. Patent No. 6,870,566 (“Koide et al.”) “teaches an A/D converter 103 in an image sensor 11 which is connected to a computer 12” and that “[t]herefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have moved the A/D converter of Yokoyama from the signal processing portion 10 to the camera head portion 9 as the signals would then be converted to digital signals before being transmitted over the cable 8 which reduces the effect of noise on the signal.” (Official Action 10/18/05, p. 5). Applicant respectfully disagrees.

Yokoyama teaches that the analog image signal must be input, not only into the A/D converter 69 located in signal processing unit 10, but must also be input into phase control unit 5. (See, FIG. 1; col. 5, lines 40-48). Elimination of this input to phase control unit 5 would not allow the camera head and signal processing unit to sync upon power up or connection. On the other hand, if Yokoyama were to be modified as suggested, the analog signal currently fed to phase control unit 5 would still have to be transmitted to the signal processing unit 10, which would not result in the above-listed benefits but rather, would result in a more complicated, expensive and cumbersome system as both analog and digital image signals would have to be transmitted. Alternatively, if one

were to also relocate phase control unit 5 to the camera head 9, all of the various control, command and synchronization signals input to phase control unit 5 would also have to be transmitted to the camera head, greatly increasing complexity and size of the camera head and cable.

Accordingly, because the suggested modification of Yokoyama would result in a system that is more complex and cumbersome, applicant respectfully submits that the modification suggested by the Examiner cannot be obvious.

It is well settled that the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *See, e.g.*, MPEP 2143.01 ("The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination."); *In re Mills*, 916 F.2d 680, 682, 16 USPQ2d 1430, 1432 (Fed. Cir. 1990) (fact that prior art "may be capable of being modified to run the way the apparatus is claimed, there must be some suggestion or motivation in the reference to do so."). In the present case, Applicant respectfully submits that there is no such motivation in Yokoyama to relocate the A/D converter from the signal processing unit to the camera head. Rather, such a modification would result in a more complicated and cumbersome system. As such, the modification cannot be obvious.

Applicant further notes that, the Examiner has stated "that the serializer is not shown explicitly but is taught implicitly as the image data from the CCD imager 61 is brought out of the camera head 9 in a timewise manner over a single line (Column 3

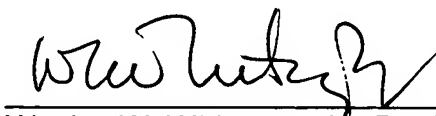
lines 1-3). Therefore the circuitry that is used in the camera head must perform the function of a serializer." (Official Action 10/18/05, p. 5). However, as amended, Claim 34 requires serialization of a digital image signal, which is neither taught or suggested in either reference.

Accordingly, because Yokoyama teaches away from transmitting a digital image signal from the camera head to the camera control unit as required by Claims 25 and 34, it cannot be obvious to modify Yokoyama in the manner suggested by the Examiner. In addition, because there is no suggestion in either Yokoyama or Koide et al. to combine the references as suggested, which are not analogous art, such a combination cannot be obvious.

It is respectfully submitted that claims 1 – 41, all of the claims remaining in the application, are in order for allowance and early notice to that effect is respectfully requested.

Respectfully submitted,

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In the Drawings

There are no amendments to the drawings.